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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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EXAMINER

ROSSOSHEK, HELEN

ART UNIT

PAPER NUMBER

2825

DATE MAILED: 10/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/872,955

Applicant(s)

ARAKI ET AL.

Examiner

Helen B Rossoshek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 4.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

- (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
- (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

2. Claims 1-8 are rejected under 35 U.S.C. 102(e) as being anticipated by Sasaki et al. (US Patent Application Publication 2001/0018761).

As to claims 1, 6, 7 Sasaki et al. teaches an object determination unit for determining if there exists a high speed signal wiring as a result of evaluation using a predefined equation which contains at least a part of circuit information of the printed circuit board as a variable, the determination being executed after extracting a pair of driver and a receiver sequentially from a group of components existing on the wiring, and after extracting circuit information of the driver corresponding to one of the pair, i.e. calculating amount of unwanted radiation (S4, S5, S6 on Fig.1) by using tools 1A, 1B, 2C, 3C, 3B for specifying, calculating frequency (signal's speed) and electromagnetic field intensity distribution on the ground or power supply plane and identifying a region of interest, tool 2A determines a magnetic field distribution in the vicinity of the ground plane (or power supply plane) with respect to the frequency (pg. 4, par.[0069]; pg. 8,

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par.[0108]; Fig. 4); a segment extraction unit (tool) for extraction a segment that is nearest to the board edge from a group of segments each defining a set of a minimum unit of a wiring configuration for the wiring implemented by tool 3A, which compares the magnetic field distribution and the position of the interconnection regarding an edge of the plane (pg. 5, par.[0075], par.[0080]); a plane edge specifying unit for specifying a plane edge that is nearest, in a perpendicular direction, to a wiring between a driver and receiver in the segment as a result of survey of the wiring configuration of the segment extracted by tool 3A; a unit for determining a perpendicular distance between the wiring extending from the driver to the receiver of the segment and the plane edge (pg. 5, par.[0078]; Fig. 3); a unit for computing a minimum interlayer distance required between a wiring layer of the segment and a layer of the plane on the basis of a pattern and circuit design specification on the wiring configuration of the extracted segment (Fig. 5B); a distance determination unit for comparing the perpendicular distance determined and the interlayer distance computed, wherein the tool 4A shown on Fig. 17 and 18 read as determination of the relationship between the position of the interconnection and the electromagnetic field intensity near the ground plane and changing the interconnection position by implementing the tool 5A; and message display unit for displaying a message that contains a predetermined instruction corresponding to the wiring in accordance with a result of determination by the distance determination unit, such tools are tool 3A and tool 4B may visually display the results, which are outputs of the tools 3B and 3A (pg.5, par.[0079]; pg. 7, par.[0099]).

As to claims 2-5 and 8 Sasaki et al. teaches a unit for computing a voltage level of a pulse current flowing through the wiring according to the circuit information; and a second object determination unit determining a presence of a high speed signal wiring when the voltage level computed is not lower than predetermined reference voltage, demonstrated on the Fig. 2, wherein the current density per mesh is calculated for each mesh, and each mesh is grouped into a level depending on the calculated current density and the concentration of radiation noise in each area is displayed, allowing interconnections to be designed according to an interactive editing process; ; the unit for computing the voltage level of the pulse current computes a voltage level thereof on the basis of a result of determination of a predetermined conditional equation which contains, as its variable, a maximum applicable frequency, a rise time, a pulse width and an amplitude that are included in the circuit information (pg. 1, par.[0010]; Fig. 2). Moreover Sasaki et al. teaches the wiring configuration is classified, as its type, a micro strip line, a single strip line, or a double strip line, which are transmission lines consisting of a metallized strip and solid ground lane metallization separated by a thin, solid dielectric, included in the printed circuit board information in S1 and S2 in the Fig. 1; a display unit for displaying a message in accordance with a result of computation obtained using a predetermined mathematical equation which contains at least a part of the circuit information as its variable (S1-S6 Fig. 1) implemented by tool 3A (Pg. 5, par.[0079]); a computer readable medium containing the computer program (pg. 3, par.[0027]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helen B Rossoshek whose telephone number is 703-305-3827. The examiner can normally be reached on 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S Smith can be reached on 703-308-1323. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

HR
October 11, 2002


LEIGH M. GARBOWSKI
PATENT EXAMINER